

PATENT  
Application No. 10/694,549  
Filing Date: 10/27/2003  
Examiner: Necholas Ogden, Jr.  
Art Unit: 1796  
Attorney Docket No. 2006-249/H05138

EXHIBIT A

THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the United States Patent Application of :  
: Applicants: Birgit Burg, :  
: Dieter Legel, :  
: Gerhard Blasey, :  
: Berthold Schreck and :  
: Peter Schmiedel :  
: Application No.: 10/694,549 : Examiner: Necholas Ogden, Jr.  
: Filing Date: 10/27/2003 : Art Unit: 1796  
: Confirmation No.: 2417 :  
: Continuation of International Application :  
: No. PCT/EP02/04170, filed 04/16/2002 :  
: claiming German priority of :  
: Application No. 101 20 441.8, filed 04/25/2001 :

Title: DETERGENT SHAPED BODIES WITH VISCOELASTIC PHASE

Declaration of Dr. Birgit Burg

I, Birgit Burg, declare as follows:

1. I am an Inventor of United States Patent Application No. 10/694,549, filed October 27, 2003.

2. I studied Chemistry at the University of Duisburg (in Germany) and received the degree "Diplom Chemiker." After my Ph.D. work, I started work at Henkel AG & Co. KGaA, working now as a Senior Manager in R & D with fifteen years' experience in the development of detergents and cleaners. During my professional career at Henkel between 1999 and 2004, I was responsible for the process technology development of detergent tablets. That included the responsibility of the development from the laboratory tablet formulation all the way up the scale to the manufacturing process of tablets. After 2004, the focus of my work changed from the process development to the product development of tablets.

3. I am familiar with United States Patent Application No. 10/694,549 and United States Patent No. 6,548,473 to Jacques Kamiel Thoen et al. (Thoen et al.).

4. Applicants' invention as claimed in claim 1 is to a detergent or cleaner shaped body in the form of a three-layer tablet. The three-layer tablet comprises a viscoelastic phase, said phase comprising, based on its weight, 60 to 85% by weight of one or more alkylbenzene sulfonates, having a storage modulus of between 40,000 and 800,000 Pa. The viscoelastic phase is present in the form of a layer placed between two tableted phase, each in the form of a layer so that the three layers of the tablet exist and are visible over the entire circumference of the tablet.

5. Applicants' invention as claimed in claim 23 is to a detergent or cleaner shaped body in the form of a three-layer tablet. The three-layer tablet comprises a viscoelastic phase, said phase comprising, based on its weight, 60 to 85% by weight of one or more alkylbenzene sulfonates, having a storage modulus of between 40,000 and 800,000 Pa. The viscoelastic phase is present in the form of a layer placed between two tableted phases, each in the form of a layer so that the three layers of the tablet exist and are visible over the entire circumference of the tablet. The viscoelastic layer constitutes 0.1 to 0.6 times the total height of the remaining layers.

6. A description of the structure of the three-layer tablet is set forth in the following passage of the Specification of Application No. 10/694,549:

For esthetic reasons and because of better handliability, preference is given to shaped bodies according to the invention in which the viscoelastic phase is surrounded by two tableted phases. In particular, the layer structure is suitable here. In the simplest case, such a preferred shaped body according to the invention has the form of a three-layer tablet whose outer layers are tableted while the middle layer is the viscoelastic phase. The outer "covers" can of course also consist of multilayer tablets, and even the viscoelastic phase can be composed of two or more viscoelastic phases optionally of varying composition. Preference is given here to detergent or cleaner shaped bodies according to the invention which have two tableted phases which have the form of layers, where the viscoelastic phase is located as the third layer between the tableted layers.

(Specification, page 55, lines 13-29).

7. The passage in the Specification quoted in Paragraph 6 describes a three-layer tablet in which the outer covers (layers) are tableted and the inner viscoelastic phase is located between the outer tableted cover layers.

8. The appearance of the tablet is shown below in Figure 1 wherein the tablet is represented as "1," the cover layers as "2" and the viscoelastic phase as "3":



Figure 1

9. The appearance of the tablet is further described in the Specification of Application No. 10/694,549, at page 56, lines 4-8:

The configuration of the above-described three-layer tablet is particularly visually attractive when the viscoelastic layer constitutes 0.1 to 0.6 times, preferably 0.15 to 0.5 times and in particular 0.2 to 0.4 times, the total height of the tablets.

10. From the description at page 6, lines 4-8, a person of ordinary skill in the art would understand that the viscoelastic layer in the three-layer tablet has a thickness which is defined in terms of the height of the other layers. The viscoelastic layer preferably has a height of at least 10% of the tablet. The description that the "configuration of the above-described three-layer tablet is particularly visually attractive . . ." discloses to this skilled person that the three layers are visible and exist over the entire circumference of the tablet.

11. A description of the process of forming the three-layer tablet is provided in the Examples section of Application No. 10/694,549:

Three-layer tablets according to the invention can be prepared by placing the abovementioned viscoelastic phases between two tablet "covers" by means of compression technology.

(Specification, page 62, lines 5-8).

The last quoted statement describes to a skilled person that the tablet is formed by preparing the viscoelastic phase in the form of a layer and placing cover layers above and below the viscoelastic phase layer. The result is a tablet with three distinct layers that exist and are visible over the entire circumference of the tablet.

12. The Thoen et al. patent is directed to a detergent tablet comprising a compressed solid body portion having therein at least one mould in said compressed solid body portion. This disclosure is set forth more specifically in the Abstract, which reads as follows:

A detergent tablet comprising i) a compressed solid body portion having therein at least one mould in said compressed solid body portion; and ii) at least one non-compressed, non-encapsulating portion mounted in said at least one mould of said compressed solid body portion, having an area of B, said at least one non-compressed, non-encapsulating portion comprising at least one detergent active; wherein surface area of said detergent tablet, excluding area of said at least one mould, is A; and wherein further ratio of B to A is from about 1:50 to about 4:1, by area. (Abstract).

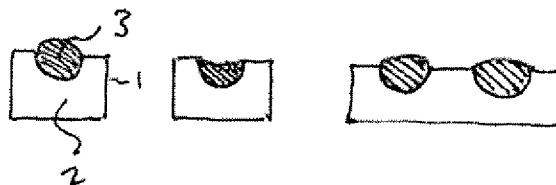
13. The non-compressed, non-encapsulating portion of the tablet is intended to contain components of the detergent tablet that are adversely affected by compression. This objective is disclosed in the Thoen et al. patent at column 6, lines 17-30, which reads as follows:

The non-compressed, non-encapsulating portion comprises at least one detergent active component, but may comprise a mixture of more than one detergent active components. Detergent active components suitable for incorporation in the non-compressed, non-encapsulating portion include components that interact with one or more detergent active components present in the compressed portion. In particular, preferred components of the non-compressed, non-encapsulating portion are those that are adversely affected by compression pressure of for example a compression tablet press. Examples of such detergent active components include, but are not limited to, surfactant, bleaching agent, bleach activator, bleach catalyst, enzyme, corrosion inhibitor, perfume and an alkalinity source.

14. The Thoen et al. patent contains the following disclosure at column 52, lines 47-54:

It is also envisaged that the compressed portion may be prepared having a plurality of moulds. The plurality of moulds are then filled with a non-compressed, non-encapsulating portion. It is also envisaged that each mould can be filled with a different non-compressed, non-encapsulating portion or alternatively, each mould can be filled with a plurality of different non-compressed, non-encapsulating portion.

15. The process disclosed at column 52, lines 47-54 results in tablets having the configurations disclosed in the following Figures 2A, 2B and 2C, in which the moulds containing the non-compressed, non-encapsulating portion are on one side of the tablet. The tablet is represented by "1," the compressed layer, by "2" and the non-compressed, non-encapsulating layer, by "3."



Figures 2A, 2B and 2C

16. The process disclosed at column 52, lines 47-54, also results in tablets having configurations disclosed in the following Figures 3A and 3B, in which the moulds containing the non-compressed, non-encapsulating portion are on one side of the tablet. The tablet is again represented as "1," the compressed layer as "2" and the non-compressed, non-encapsulating layer as "3."



Figures 3 A and 3B

17. In the tablets shown in Figures 3A and 3B at least a portion of the non-compressed, non-encapsulating portion is covered with a coating layer such that the coating layer has the effect of substantially adhering the non-compressed portion to the compressed portion. (Thoen et al. patent, column 52, lines 29-33).

18. In the configuration of the tablet shown in Paragraphs 15 and 16 herein, the non-compressed, non-encapsulating layer of the tablet does not exist and become visible over the entire circumference of the tablet because the non-compressed, non-encapsulating portions of the tablet are located within the circumference of the tablet. Indeed, in the Thoen et al. tablet, only one layer of the tablet is present over the entire circumference of the tablet. That one layer constitutes the compressed portion of the tablet.

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19. The structure and composition of the tablet disclosed in the Thoen et al. patent is different than Applicants' claimed tablet. Applicants' claimed viscoelastic phase layer exists and is visible along the entire circumference of the tablet. Therefore, the composition of Applicants' viscoelastic phase must be different than the composition of the Thoen et al. non-compressed, non-encapsulating portion because the viscoelastic phase is capable of existing and being visible over the entire circumference of the tablet. The Thoen et al. process which employs at least one mould, as disclosed in the Abstract, always results in tablets with overpressed areas in the mould. These tablets will show an inferior stability compared with Applicants' claimed tablets without overpressed areas.

*I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 19 of the United States Code, and that such willful false statements may jeopardize the validity of Application No. 10/694,549 or any patent issued thereon.*

Dated: August 15, 2008

  
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Birgit Burg